

14. (New). The device of claim 6 wherein said first and said second blade edges each have two opposing outer portions and an opposing inner portion and the space between at one of the two opposing outer portions of said first and said second blade edges is less than the space between the other of said opposing outer portions of said first and said second blade edges.

02 (Add the following new claim:)

15. (New). The device of claim 6 wherein said first and said second blade edges each contain a portion parallel to the axis of said pivot.

(Add the following new claim:)

16. (New). The device of claim 6 wherein said arcuate curved first and second blade edges are concave with respect to the axis of said pivot to cut an outer curve.

(Add the following new claim:)

17. (New) The device of claim 6 wherein said arcuate curved first and second blade edges are convex with respect to the axis of said pivot to cut an inner curve.

REMARKS

In the June 26, 2002 Office Action, the examiner rejected claims 6-13. Reconsideration of the application in view of the above amendments and following remarks is requested.

In the preliminary amendment, original claims 1-5 were cancelled and new claims 1-8 substituted. These new claims 1-8 should have been numbered 6-13. The examiner referred to these claims in the official action as if they were properly renumbered. Accordingly, the eight claims addressed as claims 6-13 in the official action have been amended to reflect the proper numbering as 6-13.

Claims 14, 15, 16 and 17 have been added in order to more clearly define the structure of the present invention. Adequate support for these claims is set forth in both the specification and the drawings.

INFORMALITIES

Claim 6 is amended pursuant to the Examiner's suggestion in paragraph 1 of the Office Action to correct informalities. In the second paragraph of claim 1, the phrase "... said upper blade end having a second blade edge ..." is replaced with "... said lower blade end having a second blade edge ...".

Additionally, applicant has amended claim 11 to now read, "The device of claim 8 wherein the opposing blade edges are disposed to be perpendicular to the surfaces of sheets of brittle material there between." This amendment is made to more precisely reflect the invention and does not add any new matter.

35 USC § 112

Claims 7-13 were rejected under Section 112, second paragraph, as not particularly pointing out and distinctly claiming the invention. In particular, the Examiner has pointed out that claim 7 recites the limitations "the outer side edges" on line 1 and "the inner edges" on line 2 and that there is insufficient antecedent basis for these limitations in the claim. In response, applicant has amended both independent claim 6 and dependent claim 7 to clarify the language and remove any problem with lack of antecedent basis.

Support for amendments to both these claims is found in the specification on page 6, first full paragraph and on page 8, last paragraph, as amended.

Since the remaining claims 8-13 depend from these two claims, the amendments to these two claims overcomes the section 112 objection to these remaining claims.

35 USC § 102

Claims 6-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Schwartz. Independent claim 6 has now been amended to overcome this rejection.

First, both the upper and lower blade ends have been amended in claim 6 to be “arcuate” in shape. Since the upper and lower blade ends in Schwartz are “angular” as disclosed in Figure 5, and not arcuate as in applicant’s invention, Schwartz is not anticipatory art..

Second, claim 6 has been amended to reflect that ,”the space between the first and second blade edges varies along the length of the edges when said first and second cutting edges are in the closed position . . .” According to Figure 3 in Schwartz, the space between the first and second blade edges does not vary along the length of the cutting edges when in the closed position.

For these, reasons claims 6, and claims 7-11 which depend from it, are no longer anticipated by Schwartz. Support for the above amendments are found on page six, first full paragraph, page eight first full paragraph and figures 2 and 9.

35 USC § 103

Claim 12 was rejected under 35 USC 103(a) as being unpatentable over Schwartz in view of Sylvester. Claim 12 depends ultimately from claim 6. Since claim 6 has been amended to overcome rejection based upon Schwartz, accordingly claim 12 which depends from claim 6, is no longer rendered obvious by Schwartz.

Similarly, claim 13 was rejected under 35 USC 103(a) as being unpatentable over Schwartz in view of Berg. Claim 12 depends ultimately from claim 6. Since claim 6 has been amended to overcome rejection based upon Schwartz, accordingly claim 13 which depends from claim 6, is no longer rendered obvious by Schwartz.

Conclusion

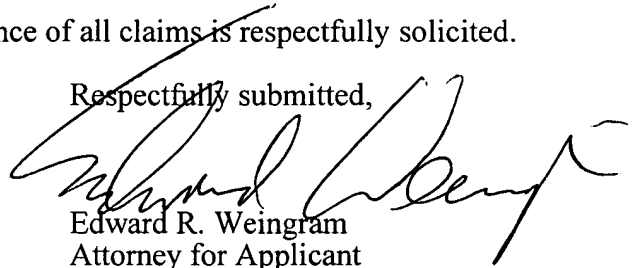
The claims have been modified to more clearly set forth the invention and distinguish it over

the prior art. None of the references taken either singularly or in combination show or suggest a device for cutting brittle materials which has opposed arcuately shaped blade edges that have opposing movement between an opened and closed position in which the distance between the opposed sections of the blade edges varies along the blade edges when the blade edges are in a closed position.

In view of the foregoing Amendments and the Remarks in support thereof, it is respectfully submitted that this case is in condition for allowance. Favorable action on the merits, including entry of all requested amendments and allowance of all claims is respectfully solicited.

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Respectfully submitted,



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MARKED UP VERSION OF CLAIMS

Amend 6 claim to read:

6. [1.] (Amended). A corner cutter comprising:

a cutter body including upper and lower handles having a pivot securing said handles together, said lower handle having an upper blade end extending beyond said pivot and having an arcuate first blade edge secured thereto,

said upper handle having a lower blade end extending beyond said pivot and opposing said upper blade end, said lower blade end having an arcuate second blade edge [said upper blade end having a second blade edge] secured thereto,

said handles and blade ends being pivotable about said pivot to provide [a scissor-like action] opposing movement of said first and second blade edges between an open and closed position,

said first and second blade edges being disposed in mutually opposing positions and the space between said first and second blade edges varies along the length of the edges when said first and second cutting edges are in the closed position for cutting sheets of brittle material positioned between said blade edges.

7. [2] (Amended). The device of claim 6 [1] wherein said first and said second blade edges each have outer portions and an inner portion and the distance between the opposing outer portions of said first and second blade edges is less than the distance between said inner portions

of said first and second blade edges [said opposing blade edges are curved with the outer side edges having a closer spacing between opposing edges than the inner edges].

8. [3.](Amended). The device of claim 6 [2] wherein the outer portions [peripheral ends] of said opposing blade ends are curved for cutting curves into said sheets of brittle material between said edges.

9. [4.] (Amended) The device of claim 6 [3] including a return spring connected between said upper and lower handles.

10. [5.] (Amended) The device of claim 9 [4] including stop means connected between opposite ends of said upper and lower handles for maintaining said handles in a normally open position.

11. [6.] (Amended). The device of claim 6 [3] wherein the opposing blade edges are disposed to be perpendicular to the surfaces of sheets of brittle material there between [therebetween].

12. [7.] (Amended) The device of claim 11 [6] wherein one of the opposing blade edges has an angled inner surface providing a sharp edge for cutting said brittle material.

13. [8.] (Amended) The device of claim 11 [6] including a guide secured to said lower blade end for positioning said lower blade end on a sheet of brittle material for simplifying the cutting of said sheet.

14. (New) The device of claim 6 wherein said first and said second blade edges each have two opposing outer portions and an opposing inner portion and the space between at one of the two opposing outer portions of said first and said second blade edges is less than the space between

the other of said opposing outer portions of said first and said second blade edges.

15. (New) The device of claim 6 wherein said first and said second blade edges each contain a portion parallel to the axis of said pivot.

16. (New) The device of claim 6 wherein said arcuate curved first and second blade edges are concave with respect to the axis of said pivot to cut an outer curve.

17. (New) The device of claim 6 wherein said arcuate curved first and second blade edges are convex with respect to the axis of said pivot to cut an inner curve.

CLEAN VERSION OF CLAIMS

Amend 6 claim to read:

6. (Amended) A corner cutter comprising:

a cutter body including upper and lower handles having a pivot securing said handles together, said lower handle having an upper blade end extending beyond said pivot and having an arcuate first blade edge secured thereto,

said upper handle having a lower blade end extending beyond said pivot and opposing said upper blade end, said lower blade end having an arcuate second blade edge secured thereto,

said handles and blade ends being pivotable about said pivot to provide opposing movement of said first and second blade edges between an open and closed position,

said first and second blade edges being disposed in mutually opposing positions and the space between said first and second blade edges varies along the length of the edges when said first and second cutting edges are in the closed position for cutting sheets of brittle material positioned between said blade edges.

Amend claim 7 to read:

7. (Amended). The device of claim 6 wherein said first and said second blade edges each have outer portions and an inner portion and the distance between the opposing outer portions of said first and second blade edges is less than the distance between said inner portions of said first and second blade edges.

Amend claim 8 to read:

8. (Amended). The device of claim 6 wherein the outer portions of said opposing blade ends are curved for cutting curves into said sheets of brittle material between said edges.

Amend claim 9 to read:

9. (Amended). The device of claim 6 including a return spring connected between said upper and lower handles.

Amend claim 10 to read:

10. (Amended). The device of claim 9 including stop means connected between opposite ends of said upper and lower handles for maintaining said handles in a normally open position.

Amend claim 11 to read:

11. (Amended). The device of claim 6 wherein the opposing blade edges are disposed to be perpendicular to the surfaces of sheets of brittle material there between.

Amend claim 12 to read:

12. (Amended). The device of claim 11 wherein one of the opposing blade edges has an angled inner surface providing a sharp edge for cutting said brittle material.

Amend claim 13 to read:

13. (Amended). The device of claim 11 including a guide secured to said lower blade end for positioning said lower blade end on a sheet of brittle material for simplifying the cutting of said sheet.

Add the following new claim:

14. (New). The device of claim 6 wherein said first and said second blade edges each have two opposing outer portions and an opposing inner portion and the space between at one of the two opposing outer portions of said first and said second blade edges is less than the space between the other of said opposing outer portions of said first and said second blade edges.

Add the following new claim:

15. (New). The device of claim 6 wherein said first and said second blade edges each contain a portion parallel to the axis of said pivot.

Add the following new claim:

16. (New). The device of claim 6 wherein said arcuate curved first and second blade edges are concave with respect to the axis of said pivot to cut an outer curve.

Add the following new claim:

17. (New). The device of claim 6 wherein said arcuate curved first and second blade edges are convex with respect to the axis of said pivot to cut an inner curve.



blade edge sections 5, 6. In the Figures, 11 are handle section covers, 12 is a return spring, and 13 is a stop that maintains cutter body 8 in an open condition.

The upper and lower blade edge lines 14, 15 of upper and lower blades 9, 10 are formed in a substantially one quarter arc shape and the center sections curve to the side of cutter body 8, as shown in the plan views of FIG. 2 and FIG. 5 and are formed to coincide with the planned cut line Cl of Fig. 7. Further, the space d1 of the upper and lower blade edge lines 14, 15 between the left and right edges or outer portions is narrower than the space d2 between the center sections or inner portions of the upper and lower blade edge lines 14, 15 in the condition where the upper and lower blades are closed, as shown in the front view of FIG. 3. Also, the upper and lower blade edge lines 14, 15 of the upper and lower blades 9, 10 [edges] are exactly opposite, as shown in the cross-sectional diagram of FIG. 4, and the plate glass 1 receives clamping pressure between the upper and lower blade edge lines 14, 15 by the opening and closing of the upper and lower blade edge sections 5, 6. The outside surface 16 of the upper and lower blades 9, 10 is formed to be perpendicular to plate glass 1, which is the object to be cut, and only the inside surface is formed as a single blade edge with a rake or angle a.

The method of using a corner cutter A1 of the first Example is as follows.

Planned cut line Cl is set by establishing the outside grinding material m shown in Fig 7, of the planned finish line Bl, by marking off line Bl on a corner section 2 of plate glass 1 as shown in FIG.5. The upper and lower blade edge lines 14, 15 conform to the planned cutting line Cl, and

blade edge sections 5, 6. In the Figures, 11 are handle section covers, 12 is a return spring, and 13 is a stop that maintains cutter body 8 in an open condition.

The upper and lower blade edge lines 14, 15 of upper and lower blades 9, 10 are formed in a substantially one quarter arc shape and the center sections curve to the side of cutter body 8, as shown in the plan views of FIG. 2 and FIG. 5 and are formed to coincide with the planned cut line C1 of Fig. 7. Further, the space d1 of the upper and lower blade edge lines 14, 15 between the left and right edges or outer portions is narrower than the space d2 between the center sections or inner portions of the upper and lower blade edge lines 14,15 in the condition where the upper and lower blades are closed, as shown in the front view of FIG. 3. Also, the upper and lower blade edge lines 14,15 of the upper and lower blades 9,10 are exactly opposite, as shown in the cross-sectional diagram of FIG. 4, and the plate glass 1 receives clamping pressure between the upper and lower blade edge lines 14, 15 by the opening and closing of the upper and lower blade edge sections 5, 6. The outside surface 16 of the upper and lower blades 9, 10 is formed to be perpendicular to plate glass 1, which is the object to be cut, and only the inside surface is formed as a single blade edge with a rake or angle α .

The method of using a corner cutter A1 of the first Example is as follows.

Planned cut line C1 is set by establishing the outside grinding material m shown in Fig 7, of the planned finish line B1, by marking off line B1 on a corner section 2 of plate glass 1 as shown in FIG.5. The upper and lower blade edge lines 14, 15 conform to the planned cutting line C1, and